

REMARKS/ARGUMENTS

Claims 1-24 are pending in the application including original claims 1-20 and newly added claims 21-24 although the Office Action lists original claims 1-19. The Examiner's attention is drawn to Applicant's error in the original claim numbering. This has necessitated renumbering of the claims. The set of claims originally presented contained two claims numbered 16. The claims beginning from the second claim 16 to 20 have been renumbered to correct this error.

Claims 1-9 stand rejected while Claims 10-20 were objected to as depending from a rejected claim but are otherwise allowable. Claim 10 has been amended to correct an error in the list of structures contained therein. The group of structures in the claim is found in the specification at page 15, line 25 to page 18, line 16. The next to last pair of structures originally presented in the claim inadvertently duplicated the structure corresponding to compound 36 on page 18. The amended claim now correctly depicts compounds 36 and 37. Further, compound 5 on page 16 has been removed from the claim.

Claims 1, 3 and 4 were rejected under 35 USC §102 as anticipated by Akiba (Document U). Claim 1 has been amended to remove the proviso allowing the groups R^1 and R^2 to form a ring solely in order to present claims to this subject matter in a related pending application. Claim 10 was similarly

amended to delete a compound containing such a ring.

Applicants do not concede that the subject matter is being surrendered for any reason related to patentability and will prosecute the subject matter separately.

Claims 1-4 were rejected under 35 USC §103(a) over Applicant's own U.S. 6,126,870. Applicants' disagree and believe the compounds of the present invention have several unobvious benefits. The presently claimed compounds are unexpectedly and dramatically superior to the compounds of the '870 patent for the reasons stated in the specification. page 18, line 25 to page 19, line 15. Reaction of a peroxidase with peroxide and the presently claimed compounds containing two sulfur atoms substituted at one end of the double bond exhibit dramatically enhanced speed of generating chemiluminescence, reaching maximum intensity in one minute or less. The compounds of Applicant's U.S. Patent No. 5,922,558 and U.S. 6,126,870 all require several minutes to reach maximum intensity. This difference was not predictable based on the disclosures of these two patents. Yet other advantages of the present group of compounds are listed at page 19, lines 17-27. The aforementioned patents provided no basis for predicting any of these advantages.

Claims 1-9 were rejected under 35 USC §112, 1st and 2nd ¶ as being indefinite and non-enabled over the terms R^1 , R^2 and R^4-R^{11} because of the use of the term "substituted". With regard to the question of indefiniteness, the specification,

including numerous examples, provides considerable guidance concerning the definition of R^1 and R^2 when these groups are "substituted" groups and regarding the nature and types of substituents R^4 - R^{11} in the compound of formula I. Many different and structurally varied types of substituted groups are demonstrated for R^1 and R^2 . Examples include alkyl, aryl, aralkyl, anionic groups, cationic, groups, halogenated groups, hydroxyl-containing groups and ester-containing groups. Questions raised regarding the nature of the ring joining R^1 and R^2 are mooted by the amendment to claim 1.

The fact that a specific limiting list of substituent groups is not being claimed in an independent claim does not automatically render it indefinite as is being implied in the Office Action. The essential point is that the presence of substituting groups allow the intended use to occur, in this case that the rapid generation of chemiluminescence is not prevented. One of ordinary skill in the art of chemiluminescent assays will understand what is intended by the use of the claimed terms. Reconsideration of the rejections based on 35 USC § 112, 2nd ¶ is requested.

With regard to the question of enablement, Applicants have made a good faith effort to provide a great many representative examples to demonstrate the synthesis, use and functioning of the generic class of compounds. Despite the showing of 39 worked examples, the Examiner has taken the position, without offering any evidence, that this area of

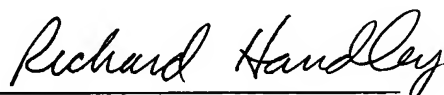
art is unpredictable and that inadequate guidance has been provided. Applicants vigorously disagree with this position and continue to contend that any member of the class of compounds as described and claimed will function in the methods of generating chemiluminescence. All exemplary compounds tested: 1) function to generate chemiluminescence, 2) demonstrate the advantages of speed of signal generation as described at pp. 18-19, and 3) present superior storage stability in aqueous solution as described at p. 19. Absent evidence to the contrary, Applicants' assertions are entitled to a presumption of validity. Numerous examples of various types of groups for R^1 and R^2 are provided covering very different types of functional groups. An alkoxy and a halogen substituent on the acridan ring are demonstrated as examples of groups usable for R^4 - R^{11} . Numerous other exemplary substituted acridan ring compounds are known in the open literature. These compounds and methods of preparation are readily discovered by one of ordinary skill in the art of organic chemistry. Applicants are not required to reiterate all publicly available knowledge in order to satisfy the duty to provide an enabling disclosure. Applicants feel that the Examiner is posing an onerous and unreasonable burden on them in requiring the demonstration of the preparation and use of all possible claimed species. Such a position is unreasonable in applicants' view and not supported by the law.

Reconsideration of the rejections based on 35 USC § 112, 1st

¶ is requested.

Claims 1-4 were rejected under the judicially created doctrine of obviousness type double patenting over Claims 1-11 of Applicant's pending U.S. application Serial Number 10/205,050. The Examiner identified the embodiments of claims 1-4 where R^1 and R^2 are joined together to form a ring as overlapping certain claimed compounds in the '050 application. The amendment to claim 1 is believed to obviate the rejection.

Consideration of the amendment as overcoming all grounds of rejection and issuance of Notice of Allowance is respectfully requested.


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